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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/353,460	07/13/1999	JIUNN-TSAIR CHEN	5-8-3	3576

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EXAMINER

HOANG, THAI D

ART UNIT	PAPER NUMBER
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2662

DATE MAILED: 06/18/2003

6

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/353,460

Applicant(s)

CHEN, JIUNN-TSAIR

Examiner

Thai D Hoang

Art Unit

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 03 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on Amendment filed on March 25, 2003.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-47 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-47 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) _____.
- 4) ☐ Interview Summary (PTO-413) Paper No(s). _____.
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: _____.

DETAILED ACTION

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

The changes made to 35 U.S.C. 102(e) by the American Inventors Protection Act of 1999 (AIPA) and the Intellectual Property and High Technology Technical Amendments Act of 2002 do not apply when the reference is a U.S. patent resulting directly or indirectly from an international application filed before November 29, 2000. Therefore, the prior art date of the reference is determined under 35 U.S.C. 102(e) prior to the amendment by the AIPA (pre-AIPA 35 U.S.C. 102(e)).

Claims 1-2, 9-11, 18-19, 26-29, 36-39, and 46-47 are rejected under 35 U.S.C. 102(e) as being unpatentable over Magnusson et al, US Patent No. 6,163,524, hereafter referred to as Magnusson.

Regarding claims 1, 11, 18, 28 and 38, Magnusson discloses a method and system called "Code Allocation in CDMA". Magnusson teaches that the method comprises the step of setting a search level in a tree-like structure; determining whether the search level corresponds to a requested bandwidth for a communication channel until the search level corresponds to the requested bandwidth for the communication

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channel; col. 6, lines 1-6 (determining propagation characteristics of said plurality of channels); and

determining whether a spreading code at the search level is eligible to be allocated to the communication channel, then selecting an eligible spreading code for allocation to the communication channel; col. 6, lines 4-10 (assigning spreading codes to said plurality of wireless terminals based on said propagation characteristics of said channels)

Regarding claims 2, 19, 29 and 39, the step of assigning codes in the system disclosed by Magnusson inherently comprises the steps of choosing a target wireless terminal; and assigning a code to the target wireless terminal, because Magnusson discloses that the communication between a mobile and a base station in the system based on CDMA technique; abstract; figures 1 and 5.

Regarding claims 9, 26, 36 and 46, Magnusson discloses that the method allocates codes in response to requests from users corresponding to a channel bandwidth. Therefore, it implies that the method comprises the step of maintaining a processing set of the plurality of wireless terminals in order to allocate codes for users. In addition, Magnusson discloses that the method comprises the step of determining whether a spreading code at the search level is eligible to be allocated to the communication channel, then selecting an eligible spreading code for allocation to the communication channel; col. 6, lines 4-10 (individually assigning codes to the wireless terminals in the processing set). Furthermore, Magnusson teaches in figure 6 that when assigning codes for a user has converged (steps 606, 612), the system repeats the step

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of assigning codes for the user; col. 9, lines 6-16 (adding a wireless terminal to said processing set when said step of individually assigning codes to said wireless terminals in said processing set has converged and repeating said step of individually assigning codes.)

Regarding claims 10, 27, 37 and 47, the base station in the system disclosed by Magnusson inherently comprises the step of transmitting codes to the plurality of wireless terminals because Magnusson discloses that the communication between a mobile and a base station in the system based on CDMA technique.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 3-8, 12-17, 20-25, 30-35, 40-45 are rejected under 35 U.S.C. 103(a) as being unpatentable over Magnusson as applied to claims above in view of Easton, US patent No. 5,764,687, hereafter referred to as Magnusson and Easton respectively.

Regarding claims 3-5, 12-14, 20-22, 30-32 and 40-42, Magnusson discloses that the codes can be allocated randomly from the available eligible codes in the code tree structure for channels of different rates and spreading factors. Magnusson does not disclose that the method comprises the step of searching to obtain an improved code for the target wireless terminal which is an improvement over a current code of the target wireless terminal. However, Easton teaches this feature. Easton teaches that

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starting with peak 0, the strongest peak, on clock cycle 13, and continuing through to peak 3 on clock cycle 23, the energy for the current offset being processed is compared with the stored peaks. If the input energy is greater than the stored energy being compared against, the input energy overwrites the stored energy, that then simultaneously replaces the input energy in accumulator latch 342. By stepping from larger to smaller peaks, once the input energy exceeds a stored peak, all of the lesser peaks are automatically "demoted" a ranking as a matter of course as the peak comparison progresses (col. 20, lines 54-64.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the searching improved signal disclosed by Easton into Magnusson's system in order to improve the quality of service to a subscriber (terminal) because a better signal is selected for transmission.

Regarding claims 6, 15, 23, 33, and 43, Magnusson does not teach that the system performs a gradient search of codes in the signal space area surrounding the improved code. However, a gradient search of codes in the system disclosed by Easton inherently performs in the signal space area surrounding the improved code, because Easton's system searches all area of the signals by search windows (col. 11, line 54 – col. 12, line 2; col. 13, line 66 – col. 14, line 11.) It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the searching method disclosed by Easton into Magnusson's system for the same purpose as mentioned in claim 3.

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Regarding claims 7, 16, 24, 34 and 44, Magnusson does not teach that the system performs a gradient search of transmission delays for the improved code. However, Easton discloses that the task of a searcher (14) is to identify the delay as measured by the horizontal axis of signal spikes 2-7 (figure 1) for potential finger assignment (col. 3, lines 6-8.) Therefore, it implies that Easton's system inherently performs a gradient search of transmission delays for the improved code.

It would have been obvious to one of ordinary skill in the art at the time the invention was made to adapt the searching method disclosed by Easton into Magnusson's system for the same purpose as mentioned in claim 3.

Regarding claims 8, 17, 25, 35 and 45, the combination limitations of claims 6-7 into claim 8, 15-16 into claims 17, and so on, therefore, these claims are rejected based on rejected claims 6-7, 15-16, 23-24, 33-34, and 43-44 respectively.

Response to Arguments

Applicant's arguments with respect to claims 1-47 have been considered but are moot in view of the new ground(s) of rejection.

Conclusion

The following references are cited to further show the state of the art with respect to the application:

US Patent No. 6,560,194 B1 to Gourgue et al

US Patent No. 6,473,395 B1 to Lee

US Patent No. 5,751,761 to Gilhousen

THIS ACTION IS MADE FINAL. Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Thai D Hoang whose telephone number is (703) 305-3232. The examiner can normally be reached on Monday-Friday 8:30am-5:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Hassan Kizou can be reached on (703) 305-4744. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9314 for regular communications and (703) 872-9314 for After Final communications. Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 305-4700.

Thai Hoang
June 8, 2003

KWANG BIN YAO
PRIMARY EXAMINER
